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3M INNOVATIVE PROPERTIES COMPANY				
PO BOX 33427				
ST. PAUL, MN 55133-3427				
EXAMINER				
DESAL, ANISH P				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com

LegalDocketing@mmm.com

Office Action Summary

Application No.

10/595,089

Applicant(s)

NAKAMURA, SAWAKO

Examiner

ANISH DESAI

Art Unit

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-893)
Paper No(s)/Mail Date 11/11/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed on 09/11/08 after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/11/08 has been entered.
2. Claims 1-10 are cancelled. Claims 11-28 are pending.
3. Objections to claims 13 and 19 are withdrawn in view of Applicant's amendment and response.
4. All of the previously made art rejections are maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP 10-077308-Machine translation provided by the Examiner) in view of Akihiro et al. (JP H2000-230162A1-Translation provided by the Examiner), substantially as set forth in the previous Office Action.

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6. Regarding claim 11, for the purpose of searching for and applying prior art under 35 USC 102 or 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, the recitation "consisting essentially of" will be construed as equivalent to "comprising." (MPEP 2111.03).

7. Masaki discloses a flame-retardant adhesive tape comprising acrylic polymers (abstract). Additionally, the disclosure of Masaki at paragraph 0004-0005 is interpreted as the adhesive tape of Masaki is free of halogen. Additionally, the disclosure of Masaki at paragraph 0043 is interpreted to read on the halogen free flame-retardant acrylic PSA tape of Masaki comprising a base material and a PSA is disposed on the base material. The acrylic polymer of Masaki is formed of a mixture comprising (a) 50-98 wt% of (meth)acrylic ester monomer ((alkyl)methacrylate) (0070) and (b) **one or more of copolymerizable monomers that is copolymerized with monomer (a)** in the amount of 2 to 50 wt%; wherein the monomer (b) can be of carboxyl group containing monomers such as acrylic acid, fumaric acid and/or nitrogen containing monomers such as N-vinyl pyrrolidone (abstract and 0010-0011). Further, paragraph 0060, Example 2 of Masaki discloses PSA formed of acrylic polymer that is formed of a mixture containing units derived from isononyl acrylate (alkyl(meth)acrylate), acrylic acid (carboxyl group-containing monomer), and N-vinyl pyrrolidone (nitrogen-containing monomer).

8. The difference between the claimed invention and the prior art of Masaki is that Masaki is silent as to teaching 15 to 400 parts by weight of a metal hydrate compound to 100 parts by weight of adhesive as presently claimed.

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9. However, Akihiro discloses a flame-retardant PSA tape having high flame resistance and excellent adhesion at the same time without using a halogen based flame-retardant or antimony, both of which have negative impact on the environment and personal safety (see abstract). The adhesive of Akihiro includes flame resistant components such as ammonium polyphosphate and aluminum hydroxide in 8:2 to 3:7 ratio and the total amount of these components is 60 to 150 wt% per 100 parts of the flammable components (see "Solution"-first and second page).

10. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the flame resistant component such as ammonium polyphosphate and aluminum hydroxide (metal hydrate) in the amount taught by Akihiro in the adhesive of Masaki, motivated by the desire to further enhance the flame-resistance characteristics of the adhesive tape of Masaki and provide an adhesive tape having excellent adhesion.

11. Claims 11-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moon et al. (US 4,988,742) in view of Blance et al. (US 3,632,412) and Akihiro et al. (JP H2000-230162-Translation provided by the Examiner), substantially as set forth in the previous Office Action.

12. It is noted that Applicant has now changed the transitional phrase in claims 12 and 19 to "consisting essentially of". Regarding claims 11, 12, and 19, for the purpose of searching for and applying prior art under 35 USC 102 or 103, absent a clear indication in the specification or claims of what the basic and novel characteristics

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actually are, the recitation "consisting essentially of" will be construed as equivalent to "comprising." (MPEP 2111.03).

13. Additionally, with respect to claims 12-14 and 19-21, it is noted that these claims do not exclude a PSA tape that has two adhesive layers wherein both adhesive layers are in contact with each other, and wherein both adhesive layers have same composition. Further, claims 12 and 19 do not exclude presence of flame retardant in second PSA layers.

14. Moon discloses an acrylic terpolymer PSA and PSA tapes comprising acrylic terpolymer PSA. Additionally, Moon is silent as to teaching presence of halogen in his/her adhesive tape.

15. Further, at column 8 lines 44-57, Moon discloses a multilayer tape construction wherein coatable composition (i.e. PSA adhesive) are coated to provide a plurality of superimposed layers. Additionally, according to Moon "Tapes of the invention may comprise **more than one pressure-sensitive adhesive layer**. In such multilayer tapes, **the pressure-sensitive layers may comprise similar** or different adhesive compositions, in like or unlike thicknesses, having similar or different additives." (column 6 lines 62-67 to column 7 lines 1-3).

16. Thus, Moon contemplates multilayer PSA tapes having similar adhesive compositions wherein the adhesive layers are coated on each other to provide superimposed adhesive layers.

17. Moreover, the adhesive tape of Moon comprises a backing (base material) (column 8 lines 36-43) having a PSA coated on one surface of the backing (column 8

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lines 36-43). Further, Moon discloses that other materials such as **fire retardants** can be blended with the adhesive composition of his/her invention (column 7 lines 59-62).

18. With respect to PSA composition, according to Moon "The acrylic terpolymer pressure-sensitive adhesive of the present invention contain an alkyl acrylate monomer, and two polar copolymerizable monomers. The alkyl acrylate monomer is preferably unsaturated acrylate ester of non-tertiary alkyl alcohol, the molecules of which have from 6 to 12 carbon atoms. Included within this class of monomers are, for example, isooctyl acrylate...**The polar copolymerizable monomers are selected such that a first polar monomer** is selected from strongly polar monomers such as **acrylic acid [carboxyl group containing monomer]**, itaconic acid **[carboxyl group containing monomer]**, hydroxyalkyl acrylates, cyanoalkyl acrylates, acrylamides or substituted acrylamides, **and a second polar monomer is selected from either strongly polar monomers such as those listed above, or moderately polar monomers such as N-vinyl pyrrolidone [Nitrogen-containing monomer]**, N-vinyl caprolactam, acrylonitrile, vinyl chloride or diallyl phthalate. **The alkyl acrylate ester preferably comprises from about 60 parts to about 96 parts of the terpolymer, more preferably from about 70 parts about 85 parts. The first polar copolymerizable monomer preferably comprises up to about 10 parts. The second polar copolymerizable monomer preferably comprises up to about 20 parts, more preferably from 10 parts to about 15 parts of the photopolymerized terpolymer.**" (column 4 lines 65 to column 5 lines 1-26). Additionally, Example 1 of Moon discloses a PSA tape made by photopolymerization of a mixture comprising isooctyl acrylate [alkyl acrylate monomer],

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acrylic acid [carboxyl group containing monomer], and N-vinylpyrrolidone [Nitrogen-containing monomer].

19. With respect to the claim requirement of alkyl **(meth)acrylate** monomer, it is noted that Moon generally discloses alkyl **acrylate** based monomers, which are believed to be encompassing alkyl (meth)acrylate monomers as well.

20. However, the secondary reference of Blance is relied upon to show that it is known in the adhesive art to use alkyl acrylate and alkyl (meth)acrylate monomers interchangeably. Blance discloses solvent resistant electrical tapes comprising a backing member coated with a PSA composition which is a polymeric product of (A) an ester of **acrylic or methacrylic acid**, (B) a lower alkyl ester of **acrylic or methacrylic acid**; and (C) a hydroxy bearing monomer (abstract).

21. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use alkyl (meth)acrylate monomer in place of alkyl acrylate monomer, because alkyl (meth)acrylate monomer and alkyl acrylate monomer are art recognized equivalent.

22. Moon as modified by Blanc is silent as to teaching the metal hydrate compound in the PSA and the amount of metal hydrate compound as claimed in claims 11, 12, 19, and 26-28.

23. However, Akihiro discloses a flame-retardant PSA tape having high flame resistance and excellent adhesion at the same time without using a halogen based flame-retardant or antimony, both of which have negative impact on the environment and personal safety (see abstract). The adhesive of Akihiro includes halogen free flame

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resistant components such as ammonium polyphosphate and aluminum hydroxide in 8:2 to 3:7 ratio and the total amount of these components is 60 to 150 wt% per 100 parts of the flammable components (see "Solution"-first and second page).

24. It is noted that the primary reference of Moon desires addition of fire retardants in his/her adhesive but does not specify a specific fire retardant. The reference of Akihiro provides necessary fire retardants (flame retardants) that can be added to PSA.

25. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the flame resistant component such as ammonium polyphosphate and aluminum hydroxide (metal hydrate) in the amount taught by Akihiro in the adhesive of Masaki, motivated by the desire to further enhance the flame-resistance characteristics of the adhesive tape of Masaki and provide an adhesive tape having excellent adhesion.

26. As to the claim requirement of the second PSA layer is present on at least a portion of both sides of the flame retardant-containing PSA layer (claims 15-18 and 22-25) and the flame retardant-containing PSA layer is a foam, as stated previously the presently claimed invention do not exclude adhesive layers having same compositions. Further, at column 8 lines 44-57, Moon discloses a multilayer tape construction wherein coatable composition (i.e. PSA adhesive) are coated to provide a plurality of superimposed layers. Additionally, according to Moon "Tapes of the invention may comprise more than one pressure-sensitive adhesive layer. In such multilayer tapes, **the pressure-sensitive layers may comprise similar or different adhesive compositions, in like or unlike thicknesses, having similar or different additives.**" (column

6 lines 62-67 to column 7 lines 1-3). Further, Moon discloses foam like adhesive tapes at column 7 lines 6-30. Based on the disclosure of Moon, the claim limitations of claims 15-18 and 22-25 are obvious optimization for one of ordinary skill in the art.

Response to Arguments

27. Applicant's arguments received on 08/21/08 have been considered but they are not found persuasive.

28. With respect to the 35 USC Section 103(a) rejections based on Masaki et al. (JP 10-077308-Machine translation provided by the Examiner) in view of Akihiro et al. (JP H2000-230162A1-Translation provided by the Examiner), Applicant argues following:

29. According to Applicant, claim 11 comprise a base material and a PSA **consisting essentially of** an alkyl (meth)acrylate monomer, a nitrogen-containing monomer, a carboxyl group-containing monomer, and a metal hydrate compound. Applicant asserts that the flame-retardant composition of Masaki includes either one of fibrous filler, porous fine particles, non-polar resin fine particles, and organic fine particles. According to Applicant the purpose of the filler in Masaki's invention is to change the characteristic (e.g. increase the shear strength) of the adhesive, and thus Masaki reference is excluded by Applicant's recitation of "consisting essentially of". The Examiner respectfully disagrees for the following reasons:

30. It is respectfully submitted that Applicant's arguments are not commensurate in scope with the claimed invention. Specifically, it is noted that claim 11 recites "a pressure-sensitive adhesive having an acrylic polymer containing units derived from a

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mixture consisting essentially of". The open language "having" does not preclude the PSA that further includes filler particles. It is respectfully submitted that substitution of the phrase "consisting essentially of" for the term "having" will be consistent with Applicant's arguments. —

31. It may be true that addition of filler particles materially affects the shear strength of the PSA as shown in the prior art. However, nothing in the specification of the present invention discloses or fairly suggests that the shear strength is basically the novel characteristics of the present invention. Thus, for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, **absent a clear indication in the specification or claims of what the basic and novel characteristics actually are**, "consisting essentially of" will be construed as equivalent to "comprising." (MPEP 2111.03). Accordingly, the art rejections are sustained.

32. With respect to the 35 USC Section 103(a) rejections based on Moon et al. (US 4,988,742) in view of Blance et al. (US 3,632,412) and Akihiro et al. (JP H2000-230162-Translation provided by the Examiner), Applicant argues following:

33. Applicant argues that claims 12 and 19 now recite that the adhesive compositions **consisting essentially** of the cited components. According to Applicant, Moon reference teaches acrylic terpolymer PSA that has a tackifying resin (abstract and column 5 lines 27-43). Applicant asserts that the purpose of the tackifier is to show improved adhesion over solvent-polymerized acrylic PSA containing about 4 to 8 times as much rosin ester tackifier. Therefore, the tackifier of Moon changes the adhesion

characteristics of the PSA and Moon should be excluded as a prior art with Applicant's amendment. Applicant further argues that specification on page 2, lines 12-25 recite that the addition to tackifiers to metal hydrate-containing PSA can compensate for a decrease in adhesive strength but does not allow for adequate holding strength in the adhesive. Therefore, Applicant concludes that he/she has intentionally excluded tackifiers from the claimed adhesive composition. The Examiner respectfully disagrees for the following reasons:

34. It is again respectfully submitted that Applicant's arguments are not commensurate in scope with the claimed invention. As set forth previously, it is noted that claims recite "a pressure-sensitive adhesive having an acrylic polymer containing units derived from a mixture consisting essentially of". The open language "having" does not preclude the PSA that further includes a tackifier. It is respectfully submitted that substitution of the phrase "consisting essentially of" for the term "having" will be consistent with Applicant's arguments. —

35. Further, the Examiner respectfully submits that the portion of the specification (page 2 lines 12-25) cited by Applicant is not sufficient to show that tackifier resins are excluded from Applicant's claimed invention, because the aforementioned portion of the specification is related to the prior art reference JP 11-269438 that is cited in Applicant's specification. Since no factual evidence has been provided to establish that the adhesive composition of the JP 11-269438 is structurally the same as the PSA of the claimed invention, there is no clear indication that addition of the tackifiers would materially alter the basic and novel properties of the claimed invention.

36. Further as to Applicant's arguments "The Applicant has amended claims 12 and 19 to recite that the adhesive compositions consist essentially of the cited components. Moon (4,988,742) teaches an acrylic terpolymer pressure sensitive adhesive that has "a hydrogenated rosin ester tackifying agent" (see abstract and col. 5, lines 27-43). The purpose of the tackifier is to "show improved adhesion over solvent-polymerized acrylic pressure-sensitive adhesives containing about 4 to 8 times as much rosin ester tackifier." Thus, the tackifier of Moon changes the adhesion characteristics of the pressure sensitive adhesive and Moon should be excluded as prior art with Applicant's amendment." (page 9, first full paragraph of 08/21/08 amendment), the Examiner submits following:

37. The aforementioned arguments are not found persuasive because aforementioned portions of Moon compare the adhesion characteristics between a PSA with rosin ester tackifier and the PSA with hydrogenated rosin ester tackifier. Likewise, the halogenated tackifier is superior in adhesiveness to the halogen-free tackifier. The comparison fails to establish that the adhesion strength of the PSA is materially altered by addition of the tackifying agents. However, the examiner notes that Moon contemplates that the adhesion strength of the PSA is materially altered by addition of the tackifying agents (table II). Incorporation of the "PSA consisting essentially of" into the claim would be sufficient to exclude Moon as prior art.

Conclusion

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38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

39. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

40. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./

Examiner, Art Unit 1794

/Hai Vo/

Primary Examiner, Art Unit 1794